



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,530	08/01/2003	Philip Mattos	851963.410	2656
500	7590	10/10/2006	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC			WANG, TED M	
701 FIFTH AVE			ART UNIT	
SUITE 6300			PAPER NUMBER	
SEATTLE, WA 98104-7092			2611	

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

57

Office Action Summary	Application No. 10/632,530	Applicant(s) MATTOS ET AL.	
	Examiner Ted M. Wang	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 8-14, 16, 17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 4, 7, 15 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/27/04, 3/14/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The informal drawing (Fig.2) is not of sufficient quality to permit examination. Accordingly, replacement drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to this Office action. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

Applicant is given a TWO MONTH time period to submit new drawings in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit replacement drawing sheets will result in ABANDONMENT of the application.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "32" has been used to designate both multiplexer (page 8, lines 11 and 24) and combinational logic (page 11, line 28). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

- Page 9, line 28, change "12" to --- 1, 2 ---.
- Page 11, line 3, change "A0" to --- "0 ---.

Claim Objections

4. Claim 1 is objected to because of the following informalities:

- Claim 1, line 14, delete --- reduced ---, and lines 19 and 20, change "that" to --- the ---, respectively.
- Claim 5, line 11, delete --- reduced ---.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 5, 6, 8-14, 16, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Best (US 7,061,972) in view of Kohli (US 6,574,558).

- With regard claim 1, Best discloses a GPS receiver for processing a plurality of received broadcast signals, the broadcast signals being of a type each having a different respective known digital code, the GPS receiver comprising:

- a digital sampler (column 3 lines 41-44);

- a memory arrangement (Fig.2 element 44 and column 4 line 34); and

- a plurality of correlators (Fig.2 elements 50, 60A and 60B and column 6 lines 7-8), being arranged to be operable in two modes wherein:

- in an acquisition mode (column 6 lines 7-8):

- the digital sampler samples the received broadcast signals to produce a digital bit stream at a first bit rate (column 2 lines 48-51, column 5 lines 9-27 and column 5 lines 38-42, where the first bit rate is the real time rate, 2.5MHz);

- the memory arrangement receives the digital bit stream and outputs at a second bit rate (column 2 lines 48-51), being higher than the first bit rate (column 5 lines 28-32 and column 5 lines 38-42, where the second bit rate is the supersamples processing rate, 25MHz);

- the plurality of correlators (Fig.2 elements 50, 60A and 60B and column 6 lines 7-8) receive the digital bit stream at the second bit rate (column 5 lines 28-32 and column 5 lines 38-42), and each of the plurality of correlators correlates the digital bit stream with a same locally generated version of one of the different known digital codes (Fig.2 elements 46, 64A and 64B, column 5 lines 61- 67 and column 6 lines 1-22); and

- in a tracking mode (column 7 lines 1-5):

the digital sampler samples the received broadcast signals to produce a digital bit stream at the first bit rate (column 2 lines 48-51, column 5 lines 9-27 and column 5 lines 38-42, where the first bit rate is the real time rate, 2.5MHz) and provides that digital bit stream direct to each of the plurality of correlators (Fig.2 elements 50, 60A and 60B and column 7 lines 1-12 and 43-47), each correlator correlates that digital bit stream with a different locally generated version of one of the known digital codes (Fig.2 elements 46, 64A and 64B and column 7 lines 5-15 and column 7 lines 43-57).

Best discloses all of the subject matter as described in the above paragraph except for specifically teaching the tracking and acquisition process circuit can be implemented with a semiconductor integrated circuit.

However, Kohli teaches that the tracking and acquisition process circuit can be implemented with a semiconductor integrated circuit (Fig.5 and column 15 lines 55-65) in order to provide fast reacquisition capabilities and reduce the number of gates required on the ASIC to reduce the cost.

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the acquisition and tracking processes circuit of the Best's in an integrated circuit as taught by Kohli so as to provide fast reacquisition capabilities and reduce the number of gates required on the ASIC to reduce the cost.

- With regard to claim 2, Best discloses all of the subject matter as described in the above paragraph except for specifically teaching wherein the memory arrangement comprises a circulating shift register.

However, Kohli teaches wherein the memory arrangement comprises a circulating shift register (Fig.5 element 122 and column 17 lines 26-43, where shift register element 122 has the exact same structure as that of a circulating shift register as defined in Fig.3 element 51 of the instant application.) in order to provide the parallel input samples to 12 channel blocks 108 for Doppler correction (column 17 lines 36-43) so that the communication quality can be improved.

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the circulating shift register as taught by Kohli into Best's memory arrangement so as to improve the communication quality.

- With regard claim 3, Best discloses all of the subject matter as described in the above paragraph except for specifically teaching wherein the circulating shift register receives the digital bit stream at a rate equal to the first bit rate and circulates at the second bit rate.

However, Kohli teaches wherein the circulating shift register receives the digital bit stream at a rate equal to the first bit rate (Fig.5 element 119 input, $2f_0$ serial shift and column 17 lines 25-43) and circulates at the second bit rate (Fig.5 element 122 output, $24f_0$ parallel load and column 17 lines 25-43) in order to

provide the parallel input samples to 12 channel blocks 108 for Doppler correction (column 17 lines 36-43) so that the communication quality can be improved.

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the circulating shift register wherein the circulating shift register receives the digital bit stream at a rate equal to the first bit rate and circulates at the second bit rate as taught by Kohli into Best's memory arrangement so as to improve the communication quality.

- With regard claim 5, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 6, which is a method claim related to claim 3, all limitation is contained in claim 3. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claims 8 and 12, which is an apparatus claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 9, Best further discloses wherein the correlator unit comprises a plurality of correlators (Fig.2 elements 50 and 60A, 60B and column 6 lines 7-10), each to correlate the received digital bit stream with a same one of the digital codes (column 6 lines 7-15).

- With regard claim 10, Best further discloses wherein the one of the digital codes used in the correlation in the acquisition mode (column 4 line 66) comprises a locally generated version of the digital code (Fig.2 elements 46 and 64A and 64B and column 6 lines 7-15 and 37-57).
- With regard claim 11, Best further discloses wherein the one of the digital codes used in the correlation in the track mode (column 7 line 1) comprises a locally generated version of the digital code (column 7 lines 5-31 and 37-57).
- With regard claim 13, which is an apparatus claim related to claim 2, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 14, which is an apparatus claim related to claim 3, all limitation is contained in claim 3. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 16, which is a system claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 17, which is a system claim related to claim 3, all limitation is contained in claim 3. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 19, Best further discloses wherein the means for correlating the bit streams at the first (column 5 lines 9-27 and lines 38-42, where the first bit rate is 2.5 MHz) and second bit rates (column 5 lines 28-32 and lines 38-42,

where the second bit rate is 25 MHz) comprises a plurality of correlators (Fig.2 elements 50 and 60A, 60B and column 6 lines 7-10 and column 7 lines 32-57) means for respectively correlating the bit streams with locally generated version of the digital codes (Fig.2 elements 46 and 64A and 64B and column 6 lines 37-46 and column 7 lines 32-57).

- With regard claim 20, which is a system claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.

Allowable Subject Matter

1. Claims 4, 7, 15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to overcome the objection(s) set forth in this Office action and rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M. Wang

A handwritten signature in black ink, appearing to read 'Ted M. Wang', with a stylized, flowing script.

Ted M Wang
Examiner
Art Unit 2611